CASE EL/2-22141/US/A/CGJ 118 AF/1752 IFW

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ANDREA DeLeachis — Type or print name
Andrea DeLeachis — Signature
7/14/04 — Date

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

IN RE APPLICATION OF
HIDETAKA OKA ET AL
APPLICATION NO: 09/734,635
FILED: DECEMBER 12, 2000
FOR: PHOTOSENSITIVE RESIN COMPOSITION

Group Art Unit: 1752
Examiner: Y. Clarke

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

TRANSMITTAL LETTER

Sir:

Enclosed herewith are three copies of the Appeal Brief in the above-identified application.

☑ Please charge Deposit Account No. 03-1935 in the amount of $330.00 for payment of the fee. Two additional copies of this paper are here enclosed. The Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment, to Account No. 03-1935.

☑ Enclosed is a Petition for Extension of time.

Respectfully submitted,

Ciba Specialty Chemicals Corporation
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540 White Plains Road
P.O. Box 2005
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Agent for Applicants
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CASE EL/2-22141/US/A/CGJ 118

CERTIFICATE OF MAILING

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Andrea DeCecchis — Type or print name

Andrea DeCecchis — Signature

7/14/04 — Date

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HIDETAKA OKA ET AL
APPLICATION NO: 09/734,635
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Group Art Unit: 1752
Examiner: Yvette M. Clarke

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

APPEAL BRIEF

Sir:

This appeal is from the final rejection mailed from the PTO on November 26, 2003.

The Notice of Appeal was mailed to the U.S. Patent and Trademark Office by first class mail with a Certificate of Mailing on April 15, 2004. The return receipt postcard accompanying the Notice of Appeal was date stamped in the PTO mail room April 19, 2004 making this Brief due June 19, 2004. A petition for a one month extension of time is attached herewith, extending the timely period for response up to and including July 19, 2004.

This Brief is timely filed.

(1) REAL PARTY OF INTEREST

The real party of interest is:

Ciba Specialty Chemicals Corp.
P.O. Box 2005
540 White Plains Road
Tarrytown, New York 10591

(2) RELATED APPEALS AND INTERFERENCES

To the knowledge of the undersigned, there are no related appeals and/or interferences.

(3) STATUS OF THE CLAIMS

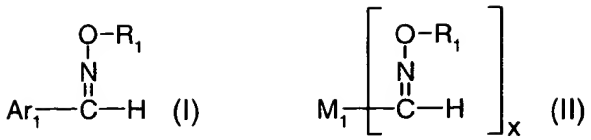
Claims 1-18 are pending. Claim 11 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Therefore, claims 1-10 and 12-18 are rejected and argued upon Appeal.

(4) STATUS OF AMENDMENTS

Claims 1, 4-5 and 9 were previously amended in the response filed December 9, 2002. There were no Amendments after Final Rejection. This brings up to date the status of the claims. A clean copy of the claims are attached in the Appendix.

(5) SUMMARY OF THE INVENTION

As taught on page 1, paragraph 1 of the disclosure, the object of the present invention is to provide photosensitive compositions which can be developed by alkali comprising oxime ester compounds as photoinitiators. The alkaline developable, photosensitive composition comprises (A) at least one alkaline soluble binder resin, prepolymer or monomer component; (B) at least one compound of formula I or II



wherein the formulae (I) and (II) and variables Ar_1, R_1, N_1 and x are defined starting with paragraph 4 on page 1 and continue through to page 4, first paragraph and (C) a photopolymerizable compound. The alkaline soluble binder resin, prepolymer or monomer (A) is defined by paragraphs 4 and 5 on page 11 through pages 18 second paragraph. The photopolymerizable compound of component (C) is defined for example on page 18, paragraphs 2 and 3 through page 19, paragraphs 1– 4.

Preferred and increasingly narrowed formulae (I) and (II) for component (B) are defined on page 9 paragraph 3 through paragraph 1 on page 11 wherein **R_1** is C_2-C_6alkanoyl or C_2-C_5alkoxycarbonyl; or R_1 is benzoyl which is unsubstituted or substituted by one or more C_1-C_6alkyl or halogen and;

Ar_1 is phenyl or naphthyl, variously substituted. See page 9, paragraph 3 and claim 4. A further selection of formulae (I) and (II) for component (b) can be found on page 11, paragraph 2 wherein

R_1 is C_2-C_4alkanoyl;

Ar_1 is phenyl or naphthyl, variously substituted. See page 11, paragraph 2.

Furthermore, the photopolymerization can also be accelerated by adding further photosensitizers or coinitiators (as component (D)). See page 19, paragraph 4 and claim 8.

(6) ISSUES

The following issue is presented for review:

1. Whether claims 1-10 and 12-18 are properly rejected under 35 U.S.C. § 103(a) as being unpatentable over Laridon et al, US 4,282,309.

(7) GROUPING OF THE CLAIMS

The following two groups of claims are argued separately:

Claims 1-4, 6-10 and 12-18 are argued together for issue 1.

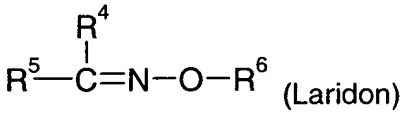
Claim 5 is argued separately for issue 1.

(8) ARGUMENT

Whether claims 1-10 and 12-18 are properly rejected under 35 U.S.C. § 103(a) as being unpatentable over Laridon et al, US 4,282,309.

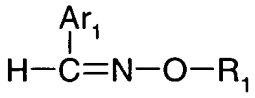
Claims 1-4, 6-10 and 12-18 are argued together for issue 1.

The Examiner alleges that the compound of formula in Laridon column 2, line 50:



(Laridon)

meets the limitations of the claimed formula (I) wherein Ar_1 is a C_{6-20} aryl substituted with a C_{1-20} alkyl group

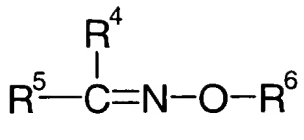


(I).

Examiner further states that although not exemplified, one of ordinary skill in the art can readily envision the use of hydrogen and alkaryl as suitable substituents making the instant invention obvious over the cited prior art.

Difference between the Laridon and the Instant

Laridon does not specifically disclose any "aldoxime" compound. Laridon only discloses oximes which are substituted by aroyl. Furthermore, in addition all preferred compounds of Laridon bear unsustituted benzoyl groups in contrast to the Appellants' presently claimed substituted aryl groups. See the table 1 below, illustrating the compounds exemplified in Laridon versus the claimed compounds.



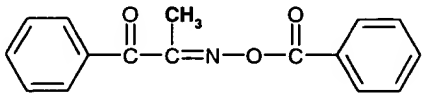
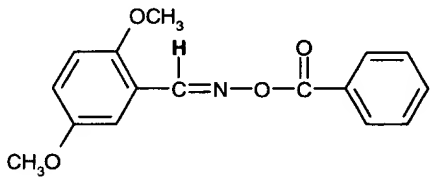
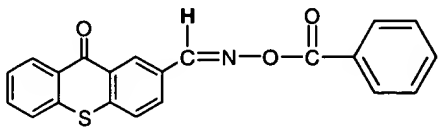
(Laridon)

Table I

Compounds exemplified in according to "Laridon",	Compounds according to application Serial No. 09/734,635
R_4= alkyl	R_4= hydrogen
R_5=all examples show aroyl	R_5=excludes aroyl
R_5=all examples show unsubstituted	R_5=excludes unsubstituted aryl

Declaration under Rule 132

In order to give a demonstration of the unobvious selection of the subject matter claimed in the present application, Appellants enclose a Declaration under Rule 132 of Hidetaka Oka. H. Oka compared a "ketoxime" compound as specifically disclosed in Laridon, i.e. compound A, col. 3, line 20, with two "aldoxime" compounds according to the present invention.

Compound according to "Laridon", US Patent 4282309, col. 3, compound (A)	Compounds according to application Serial No. 09/734,635
 **A**	 **B1**  **B2**

The experimental procedures are discussed more fully in the enclosed Declaration. Compounds B1 and B2 are believed to represent the closest point in view of the scope of amended claim 1. These

compounds are significantly more reactive as measured using a Stouffer Wedge. The results are reproduced below show an unexpected superiority of the presently claimed compounds in resist compositions.

A reduction in exposure time by more than 50% is a surprising and considerable improvement in quality of the manufactured product, an unexpected result for the Appellants' aldoximes in light of the cited prior art.

Compound	Number of steps reproduced after exposure time of		
	40 sec.	80 sec.	160 sec.
A	2	4	6
B1	4	7	9
B2	5	6	8

The prior art does not suggest that the selected aldoxime-type compounds would exhibit such a degree of improved performance. Thus, the selection of compounds of the invention is unobvious. Furthermore, the data in Tables 2 and 3 of the disclosure considered in light of the Declaration reinforce the position that the performance of all 30 of the examples of the present disclosure have unexpected performance. Note that in the Declaration, A shows a performance of 2, 4 and 6 at 40 sec, 80 sec, and 160 sec exposure times respectively versus ranges for the inventive examples of 8 to 11,10-13, and 12-15 for the same respective exposure times. Clearly, the structural selection of the present invention, is unobvious and unexpected. As such, the 103(a) rejection of Laridon should be withdrawn.

However, the Examiner has considered the declaration submitted on December 12, 2002 but does not consider it convincing for a number of reasons: The Examiner alleges that the Applicant has used preferred substituents which may give enhanced results; the Examiner is uncertain why the Appellants have selected the two substituents used in the declaration and not something more closely related to the taught compound such as an aryl substituted with a C_2-C_{12} alkoxycarbonyl group; and finally the declaration fails to compare the closest prior art.

The Appellants respectfully disagree with the Examiner's reasoning for not considering the Declaration for the following reasons:

Choice of Compound A of Cited Prior Art

Appellants are obliged to compare compounds from the prior art, which are "actually taught" or exemplified. See *ex parte Westphal 223 USPQ 630.* Laridon explicitly gives a preference for compounds having at least one acyl group for R_4 and/or R_5 (see Col. 3, line 2-3) and also specifically discloses only compounds of this kind, (A)-(E) in col. 3. All of Laridon's specifically disclosed ketoxime compounds having either a "CH_3" or a "phenyl" instead of the "H" of the instant R_5. The short alkyl chain of CH_3 is closer to the "H" than a phenyl. Thus, for comparison the Appellants chose the closest compound, a compound with a CH_3. Further, all of Laridon's specifically disclosed, preferred compounds bear unsustituted benzoyl groups in contrast to the Appellants presently claimed substituted aryl groups. Note that the Appellants do not claim aroyl groups for Ar_1. Thus, using the preferred unsubstituted benzoyl compound from Laridon is entirely correct. To summarize, Appellants selected the Laridon compound from the *preferred genus*, group closest to "H" and compared compounds with identical oxime substitutents. This logic gives compound A of the Laridon examples.

Choice of Compounds B1 and B2 from Instant Application

The Appellants selected from their exemplified compounds identical substituents in the oxime part. The Examiner has stated "the Applicant has used preferred substituents which may give enhanced results". However, the Appellants selected *substituted aryl because the unsubstituted compounds are not encompassed by the instant claims.* The aryl substitution is a distinct feature of the Appellants invention. Further, Appellants not only compared the one closest compound according to Laridon's structures (B1) but also showed an improvement with compound (B2), identical in the oxime part of the molecule, but structurally quite different in the aryl of B1. This is a clear indication, that the compounds of the present invention exhibit good performance over the broad scope. Thus the rational for the choices of compounds B1 and B2 for comparison purposes is entirely correct given the compounds exemplified by Laridon et al. and those claimed and exemplified by the instant invention.

Moreover, the Appellants chose a system for the photopolymerization comparison as close as possible to the Laridon example. The basic components of Laridon's system are an acrylic copolymer, a pentaerythritol acrylate and as a solvent acetone, typical main components of a UV-curable composition (see example 1 of Laridon). Appellants tests in the declaration and instant invention used

a corresponding acrylated copolymer, a pentaerythritol acrylate and the solvent acetone (see example 31 of the instant invention and "Experimental Procedure" for declaration). Therefore, the photocurable formulation for the sensitivity tests were also entirely correct and directly comparable.

A reduction in exposure time by more than 50% is a surprising and considerable improvement in quality of the manufactured product, an unexpected result for the Appellants' aldoximes in light of the cited prior art. The declaration selection of compounds for comparison and results clearly show that the photosensitivity of compounds B1 and B2 are superior to that of compound A. Therefore, the Appellants request that the 103(a) rejection over Laridon et al. be withdrawn.

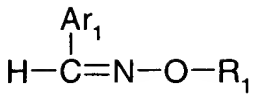
As appellant is only obliged to compare with compounds from the prior art, which are "actually taught" or exemplified. The court held that Appellants did NOT have to compare said compound with the claimed one: "*Applicants were justified in testing closest compounds actually taught in reference, rather than compounds not exemplified*" (See 223 USPQ 633, left column).

Thus, the Examiner's request in the present case, to test compounds of Laridon, which are only subject to a generic claim and NOT specifically disclosed is unjustified.

To summarize:

- Laridon does not specifically disclose compounds with R_5 = H, or compounds with a substituted aryl group R_4.
- Laridon gives clear indications of preferred compounds, which preferences clearly teach away from the substitution pattern as claimed in the claims of the present invention. The person skilled in the art, based on the preferences given by Laridon would never obviously expect an improvement as shown in our comparative test.
- According to case law the request to compare a compound not actually taught in the prior art is unjustified.

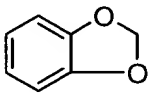
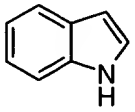
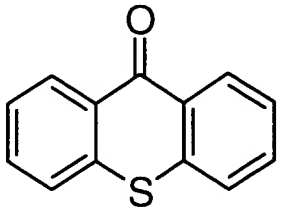
The Examiner further states that even if the declaration was successful in comparing the closest prior art, it has failed to be commensurate in scope with the independent claim. The Appellants respectfully disagree with this statement. The disclosure of the Appellants demonstrate the performance of 30 different compounds. All of the disclosed 30 compounds are aldoxime.



(I).

The Ar_1 is defined as is C_6-C_{20}aryl which is substituted 1 to 12 times by halogen C_1-C_{20}alkyl, benzyl, C_1-C_{20}alkanoyl or C_3-C_8cycloalkyl; or said C_6-C_{20}aryl is substituted by phenyl or benzoyl each of which optionally is substituted by one or more OR_3, SR_4 or NR_5R_6; or said C_6-C_{20}aryl is substituted by C_2-C_{12}alkoxycarbonyl optionally interrupted by one or more -O- and/or optionally substituted by one or more hydroxyl groups; or said C_6-C_{20}aryl is substituted by phenoxycarbonyl, OR_3, SR_4, SOR_4, SO_2R_4 or NR_5R_6, wherein the substituents OR_3, SR_4 or NR_5R_6 optionally form 5- or 6-membered rings *via* the radicals R_3, R_4, R_5 and/or R_6 with further substituents on the aryl ring of the C_6-C_{20}aryl group or with one of the carbon atoms of the aryl ring of the C_6-C_{20}aryl group;

There are numerous examples of C_6-C_{20}aryl- other than phenyl.
For example

- Example 9 on page 56 of the disclosure shows a naphthal,
- example 5, also on page 56 shows 
- example 29, on page 60 
- example 30, also on page 60 
- B2 of the declaration 

The substitution on the aryl (Ar_1) groups are highly varied in examples 1-30 in the disclosure.

For example,

- aryl is substituted by one or more OR_3 – see ex.2, 3, 4, 6, 10, 12, 13 and 14;
- or NR_5R_6 – see ex. 11 and 23;
- said C_6-C_{20}aryl is substituted by C_2-C_{12}alkoxycarbonyl optionally interrupted by one or more -O- and/or optionally substituted by one or more hydroxyl groups - see ex. 22, 23;
- wherein the substituents OR_3, SR_4 or NR_5R_6 optionally form 5- or 6-membered rings *via* the radicals R_3, R_4, R_5 and/or R_6 - see ex. 24;
- C_6-C_{20}aryl which is substituted 1 to 12 times by halogen C_1-C_{20}alkyl – see ex, 16,19, 8 and 18.

The R_1 group is defined as
C_4-C_9cycloalkanoyl, C_3-C_{12}alkenoyl; C_1-C_{20}alkanoyl which is unsubstituted or substituted...or R_1 is benzoyl.

For examples

- 1-30 show R_1 = to acetyl;
- The enclosed declaration shows R_1= to benzoyl;
- An example illustrating M_1 equal to phenyl and x equal to 2 is shown in example 28.

Clearly the Appellants have given adequate support for the scope of claim 1. The Appellants have shown a very diverse Ar_1 groups, a large number of examples illustrating various substitutions on the Ar_1, two different groups from the R_1 , and finally an example of a formula (II) where M_1 is phenyl and x is equal to 2.

In summary,

- The Declaration submitted compares the closest prior art of Laridon.
- In light of the Declaration and Data present in the disclosure (Tables 2 and 3, pages 61, 62 and 63), the performance of the aldoxime, substituted aryl (Ar_1) selection of the instant invention is unobvious (none of which are exemplified in Laridon). The Declaration shows a reduction of exposure time by more than 50% when compared with example A of Laridon.
- The data in Tables 2 and 3 of the disclosure shows a considerable range of structures which are commensurate in scope with claim 1.

The Appellants request that in light of the arguments above the 103(a) rejection of Lardidon be reconsidered and withdrawn.

Whether claim 5 are properly rejected under 35 U.S.C. § 103(a) as being unpatentable over Laridon et al, US 4,282,309.

Claim 5 is of narrower scope than claim 1.

- R_1 is C_2-C_4alkanoyl (see ex 1-30);

  All 30 examples within the present disclosure exemplify R_1 is C_2-C_4alkanoyl providing support for claim 5. Most of the examples show acetyl but example 10 shows ethyl carbonyl.

- Ar_1 is phenyl or naphthyl;

  There are multiple examples of Ar_1 = to phenyl (ex. 1,3,4,6,7,8,10,11,13, 14, 15, 16, 17, 18, 19, 20, 21 22, 23, 24, 25, 26 27, 28) and several examples wherein Ar_1= napthyl (9,12, and 2).,

- each of which is substituted by halogen,

  see ex. 16 and19

- C_1-C_8alkyl,

  see ex. 8 and 18

- NR_5R_6

  see ex. 11 and 23

- or OR_3,

  see ex. 2, 3, 4, 6, 10, 12, 13 and 14

- wherein the substituents OR_3, optionally form 5- or 6-membered rings *via* the radicals R_3 with further substituents on the phenyl or naphthyl ring;

  see ex. 23

- or, provided that R_1 is acetyl, Ar_1 is 2-furyl, 2-pyrrolyl, 2-thienyl, 3-indolyl;

  The disclosure provides support for when R_1 is acetyl Ar_1 is 2-furyl, 3-indoyl

  see ex. 29 and 30

- R_3 is C_1-C_{20}alkyl; or R_3 is C_2-C_{12}alkyl which is substituted by OH, -O(CO)-C_1-C_4alkyl, -N(C_1-C_4alkyl)$_2$, -N(CH_2CH_2OH)$_2$, -N[CH_2CH_2O-(CO)-C_1-C_4alkyl or morpholinyl; or R_3 is C_2-C_{12}alkyl which is interrupted by one or more -O-; or R_3 is -(CH_2CH_2O)$_{n+1}$H or -(CH_2CH_2O)$_n$(CO)-C_1-C_4alkyl; n is 1 to 3; and

  see ex. 22, 23 and 24

- An example illustrating M_1 equal to phenyl and x equal to 2 is shown in example 28.

Each variable is supported by either specific examples of the disclosure or the Declaration. Furthermore, the examples and Declaration show unobviousness indicating a reduction of exposure time by more than 50% when compared with example A of Laridon.

The Appellants respectfully request reconsideration and withdrawal of the 103(a) Laridon rejection of claim 5 in light of the Declaration and data of examples 1-30 in the disclosure showing unexpected performance. Note that in the Declaration, Laridon's A shows a performance of 2, 4 and 6 at 40 sec, 80 sec, and 160 sec exposure times respectively versus ranges for the inventive examples of 8 to 11,10-13, and 12-15 for the same respective exposure times. Clearly, the structural selection of the present invention, is unobvious and unexpected. As such, the 103(a) rejection of Laridon should be withdrawn.

Appellants aver that these rejections are in error as outlined above and respectfully request that they be reversed.

Respectfully submitted,

Tyler A. Stevenson
Agent for Appellants
Reg. No. 46,388

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Attachments: Appendix with claims on appeal, Declaration, Petition for one month extension.

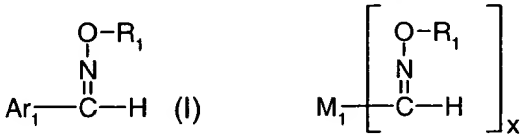
(9) APPENDIX

The claims on appeal are:

1. **(previously presented):** Alkaline developable, photosensitive composition comprising

(A) at least one alkaline soluble binder resin, prepolymer or monomer component;

(B) at least one compound of formula I or II



(I)

(II), wherein

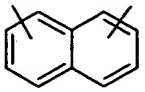
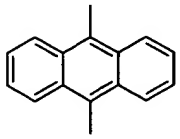
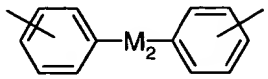
R_1 is C_4-C_9cycloalkanoyl, C_3-C_{12}alkenoyl; C_1-C_{20}alkanoyl which is unsubstituted or substituted by one or more halogen, CN or phenyl; or R_1 is benzoyl which is unsubstituted or substituted by one or more C_1-C_6alkyl, halogen, CN, OR_3, SR_4 or NR_5R_6; or R_1 is C_2-C_{12}alkoxycarbonyl or benzyloxycarbonyl; or phenoxycarbonyl which is unsubstituted or substituted by one or more C_1-C_6alkyl or halogen;

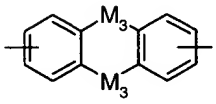
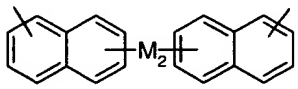
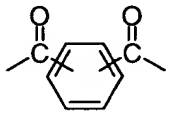
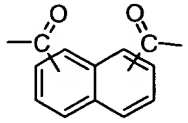
Ar_1 is C_6-C_{20}aryl which is substituted 1 to 12 times by halogen, C_1-C_{20}alkyl, benzyl, C_1-C_{20}alkanoyl or C_3-C_8cycloalkyl; or said C_6-C_{20}aryl is substituted by phenyl or benzoyl each of which optionally is substituted by one or more OR_3, SR_4 or NR_5R_6; or said C_6-C_{20}aryl is substituted by C_2-C_{12}alkoxycarbonyl optionally interrupted by one or more -O- and/or optionally substituted by one or more hydroxyl groups; or said C_6-C_{20}aryl is substituted by phenoxycarbonyl, OR_3, SR_4, SOR_4, SO_2R_4 or NR_5R_6, wherein the substituents OR_3, SR_4 or NR_5R_6 optionally form 5- or 6-membered rings *via* the radicals R_3, R_4, R_5 and/or R_6 with further substituents on the aryl ring of the C_6-C_{20}aryl group or with one of the carbon atoms of the aryl ring of the C_6-C_{20}aryl group; or,

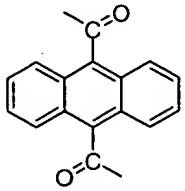
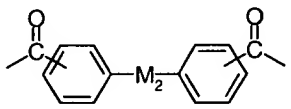
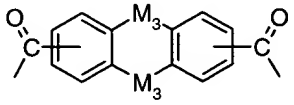
provided that R_1 is acetyl, Ar_1 is C_3-C_9heteroaryl, which is unsubstituted or substituted 1 to 7 times by halogen, C_1-C_{20}alkyl, benzyl, C_1-C_{20}alkanoyl, or C_3-C_8cycloalkyl; or said C_3-C_9heteroaryl is

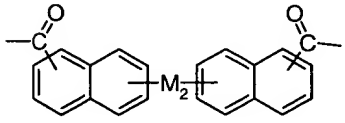
substituted by phenyl or benzoyl, each of which optionally is substituted by one or more OR_3, SR_4 or NR_5R_6; or said C_3-C_9heteroaryl is substituted by C_2-C_{12}alkoxycarbonyl optionally interrupted by one or more -O- and/or optionally substituted by one or more hydroxyl groups; or said C_3-C_9heteroaryl is substituted by phenoxycarbonyl, OR_3, SR_4, SOR_4, SO_2R_4 or NR_5R_6;

x is 2 or 3;

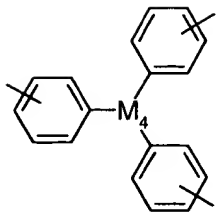
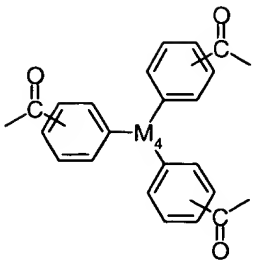
M_1 when x is 2, is  ,  ,  ,  ,

 ,  ,  ,  ,

 ,  ,  or

 , each of which optionally is substituted 1 to 12 times by halogen,

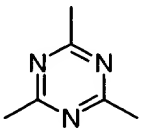
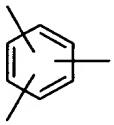
C_1-C_{12}alkyl, C_3-C_8cycloalkyl, benzyl; phenyl which is unsubstituted or substituted by one or more OR_3, SR_4 or NR_5R_6; benzoyl which is unsubstituted or substituted by one or more OR_3, SR_4 or NR_5R_6; C_1-C_{12}alkanoyl; C_2-C_{12}alkoxycarbonyl optionally interrupted by one or more -O- and/or optionally substituted by one or more OH, phenoxycarbonyl, OR_3, SR_4, SOR_4, SO_2R_4 or NR_5R_6;

or M_1, when x is 3, is  or  , each of which optionally is

substituted 1 to 12 times by halogen, C_1-C_{12}alkyl, C_3-C_8cycloalkyl; phenyl which is unsubstituted or substituted by one or more OR_3, SR_4 or NR_5R_6; benzyl, benzoyl, C_1-C_{12}alkanoyl; C_2-C_{12}alkoxycarbonyl optionally interrupted by one or more -O- and/or optionally substituted by one or more hydroxyl groups, phenoxycarbonyl, OR_3, SR_4, SOR_4, SO_2R_4 or NR_5R_6;

M_2 is a direct bond, -O-, -S-, -SS-, $-NR_3$-, -(CO)-, C_1-C_{12}alkylene, cyclohexylene, phenylene, naphthylene, -(CO)O-(C_2-C_{12}alkylene)-O(CO)-, -(CO)O-$(CH_2CH_2O)_n$-(CO)- or -(CO)-(C_2-C_{12}-alkylene)-(CO)-; or M_2 is C_4-C_{12}alkylene or C_4-C_{12}alkylenedioxy-, each of which is optionally interrupted by 1 to 5 -O-, -S- and/or $-NR_3$-;

M_3 is a direct bond, $-CH_2$-, -O-, -S-, -SS-, $-NR_3$- or -(CO)-;

M_4 is  ,  or  ;

R_3 is hydrogen or C_1-C_{20}alkyl; or R_3 is C_2-C_{12}alkyl which is substituted by -OH, -SH, -CN, C_3-C_6alkenoxy, $-OCH_2CH_2CN$, $-OCH_2CH_2(CO)O(C_1$-C_4alkyl), -O(CO)-C_1-C_4alkyl, -O(CO)-phenyl, -(CO)OH, -(CO)O(C_1-C_4alkyl), $-N(C_1$-C_4alkyl$)_2$, $-N(CH_2CH_2OH)_2$, $-N[CH_2CH_2O$-(CO)-C_1-C_4alkyl$]_2$ or morpholinyl; or R_3 is C_2-C_{12}alkyl which is interrupted by one or more -O-; or R_3 is $-(CH_2CH_2O)_{n+1}H$, $-(CH_2CH_2O)_n$(CO)-C_1-C_8alkyl, C_1-C_8alkanoyl, C_3-C_{12}alkenyl, C_3-C_6alkenoyl, C_3-C_8cycloalkyl; or R_3 is benzoyl which is unsubstituted or substituted by one or more C_1-C_6alkyl, halogen, -OH or C_1-C_4alkoxy; or R_3 is phenyl or naphthyl each of which is unsubstituted or substituted by halogen, -OH, C_1-C_{12}alkyl, C_1-C_{12}alkoxy, phenyl-C_1-C_3-alkoxy, phenoxy, C_1-C_{12}alkylsulfanyl, phenylsulfanyl,

$-N(C_1-C_{12}alkyl)_2$, diphenylamino or $-(CO)R_7$; or R_3 is phenyl-C_1-C_3alkyl, or $Si(C_1-C_6alkyl)_r(phenyl)_{3-r}$;

r is 0, 1, 2 or 3;

n is 1 to 20;

$\mathbf{R_4}$ is hydrogen, C_1-C_{20}alkyl, C_3-C_{12}alkenyl, C_3-C_8cycloalkyl, phenyl-C_1-C_3alkyl; C_2-C_8alkyl which is substituted by -OH, -SH, -CN, C_3-C_6alkenoxy, $-OCH_2CH_2CN$, $-OCH_2CH_2(CO)O(C_1-C_4alkyl)$, $-O(CO)-C_1-C_4$alkyl, -O(CO)-phenyl, -(CO)OH or $-(CO)O(C_1-C_4alkyl)$; or R_4 is C_2-C_{12}alkyl which is interrupted by one or more -O- or -S-; or R_4 is $-(CH_2CH_2O)_{n+1}H$, $-(CH_2CH_2O)_n(CO)-C_1-C_8$alkyl, C_2-C_8alkanoyl, C_3-C_{12}alkenyl, C_3-C_6alkenoyl; or R_4 is phenyl or naphthyl each of which is unsubstituted or substituted by halogen, C_1-C_{12}alkyl, C_1-C_{12}alkoxy or $-(CO)R_7$;

$\mathbf{R_5}$ and $\mathbf{R_6}$ independently of each other are hydrogen, C_1-C_{20}alkyl, C_2-C_4hydroxyalkyl, C_2-C_{10}alkoxyalkyl, C_3-C_5alkenyl, C_3-C_8cycloalkyl, phenyl-C_1-C_3alkyl, C_1-C_4alkanoyl, C_3-C_{12}alkenoyl, benzoyl; or are phenyl or naphthyl each of which is unsubstituted or substituted by C_1-C_{12}alkyl or C_1-C_{12}alkoxy; or R_5 and R_6 together are C_2-C_6alkylene optionally interrupted by -O- or $-NR_3-$ and/or optionally substituted by hydroxyl, C_1-C_4alkoxy, C_2-C_4alkanoyloxy or benzoyloxy;

$\mathbf{R_7}$ is hydrogen, C_1-C_{20}alkyl; or is C_2-C_8alkyl which is substituted by halogen, phenyl, -OH, -SH, -CN, C_3-C_6alkenoxy, $-OCH_2CH_2CN$, $-OCH_2CH_2(CO)O(C_1-C_4alkyl)$, $-O(CO)-C_1-C_4$alkyl, -O(CO)-phenyl, -(CO)OH or $-(CO)O(C_1-C_4alkyl)$; or R_7 is C_2-C_{12}alkyl which is interrupted by one or more -O-; or R_7 is $-(CH_2CH_2O)_{n+1}H$, $-(CH_2CH_2O)_n(CO)-C_1-C_8$alkyl, C_3-C_{12}alkenyl, C_3-C_8cycloalkyl; phenyl optionally substituted by one or more halogen, -OH, C_1-C_{12}alkyl, C_1-C_{12}alkoxy, phenoxy, C_1-C_{12}alkylsulfanyl, phenylsulfanyl, $-N(C_1-C_{12}alkyl)_2$, or diphenylamino;

and

(C) a photopolymerizable compound.

2. **(original):** Photosensitive composition according to claim 1, wherein compound (A) is an oligomeric or polymeric compound.

3. **(original):** Photosensitive composition according to claim 2, wherein the photopolymerizable compound (C) is a liquid.

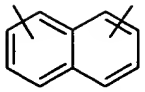
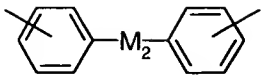
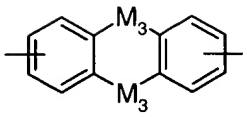
4. **(previously presented):** Photosensitive composition according to claim 1, wherein component (B) is a compound of formula I or II, wherein

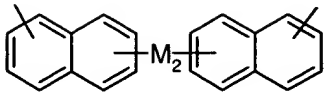
R_1 is C_2-C_6alkanoyl or C_2-C_5alkoxycarbonyl; or R_1 is benzoyl which is unsubstituted or substituted by one or more C_1-C_6alkyl or halogen;

Ar_1 is phenyl or naphthyl,

each of these radicals is substituted 1 to 5 times by halogen, C_1-C_{20}alkyl, benzyl or C_1-C_{20}alkanoyl; or said phenyl or naphthyl is substituted by phenyl or benzoyl, each of which optionally is substituted by one or more OR_3, SR_4 or NR_5R_6; or said phenyl or naphthyl is substituted by C_2-C_{12}alkoxycarbonyl optionally interrupted by one or more -O- and/or optionally substituted by one or more OH; or said phenyl or naphthyl is substituted by OR_3, SR_4 or NR_5R_6, wherein the substituents OR_3, SR_4 or NR_5R_6 optionally form 5- or 6-membered rings *via* the radicals R_3, R_4, R_5 and/or R_6 with further substituents on the phenyl or naphthyl ring or with one of the carbon atoms of the phenyl or naphthyl ring;
or Ar_1 is furyl, pyrrolyl, thienyl, benzofuranyl, indolyl, benzothiophenyl or pyrridyl, provided that R_1 is acetyl; wherein each of these radicals is unsubstituted or substituted 1 to 4 times by halogen, C_1-C_{20}alkyl, benzyl, C_3-C_8cycloalkyl, phenyl, C_1-C_{20}alkanoyl, benzoyl, C_2-C_{12}alkoxycarbonyl, phenoxycarbonyl, OR_3, SR_4, SOR_4, SO_2R_4 or NR_5R_6;

x is 2;

M_1 is a group  ,  ,  ,  or

 , each of which optionally is substituted 1 to 4 times by halogen, C_1-C_{12}alkyl, benzyl, OR_3, SR_4 or NR_5R_6; or by phenyl which is unsubstituted or substituted by one or more OR_3, SR_4 or NR_5R_6; or by benzoyl which is unsubstituted or substituted by one or more OR_3, SR_4 or NR_5R_6; or by C_1-C_{12}alkanoyl; or by C_2-C_{12}alkoxycarbonyl optionally interrupted by one or more -O- and/or optionally substituted by one or more hydroxyl groups;

M_2 is a direct bond, -O-, -S-, -SS-, -NR_3-, -(CO)-, C_1-C_{12}alkylene, phenylene, -(CO)O-(C_2-C_{12}alkylene)-O(CO)-, -(CO)O-$(CH_2CH_2O)_n$-(CO)- or -(CO)-(C_2-C_{12}-alkylene)-(CO)-; or M_2 is C_4-C_{12}alkylene or C_4-C_{12}alkylenedioxy-, each of which is optionally interrupted by 1 to 5 -O-, -S- and/or -NR_3-;

M_3 is a direct bond, -CH_2-, -O-, -S-, -NR_3- or -(CO)-;

R_3 is hydrogen or C_1-C_{20}alkyl; or R_3 is C_2-C_{12}alkyl which is substituted by -OH, -SH, -O(CO)-C_1-C_4alkyl, -O(CO)-phenyl, -(CO)O(C_1-C_4alkyl), -N(C_1-C_4alkyl)$_2$, -N$(CH_2CH_2OH)_2$, -N$[CH_2CH_2O$-(CO)-C_1-C_4alkyl$]_2$ or morpholinyl; or R_3 is C_2-C_{12}alkyl which is interrupted by one or more -O-; or R_3 is -$(CH_2CH_2O)_{n+1}$H, -$(CH_2CH_2O)_n$(CO)-C_1-C_8alkyl, phenyl-C_1-C_3alkyl, C_2-C_8alkanoyl, C_3-C_{12}alkenyl or C_3-C_6alkenoyl; or R_3 is benzoyl which is unsubstituted or substituted by one or more C_1-C_6alkyl, halogen or C_1-C_4alkoxy; or R_3 is phenyl or naphthyl each of which is unsubstituted or substituted by halogen, C_1-C_{12}alkyl, C_1-C_{12}alkoxy, phenyl-C_1-C_3-alkoxy, phenoxy, C_1-C_{12}alkylsulfanyl, phenylsulfanyl, -N(C_1-C_{12}alkyl)$_2$, diphenylamino or -(CO)R_7;

n is 1 to 20;

R_4 is hydrogen, C_1-C_{20}alkyl, C_3-C_{12}alkenyl, phenyl-C_1-C_3alkyl; C_2-C_8alkyl which is substituted by -OH, -SH, -O(CO)-C_1-C_4alkyl, -O(CO)-phenyl or -(CO)O(C_1-C_4alkyl); or R_4 is C_2-C_{12}alkyl which is interrupted by one or more -O- or -S-; or R_4 is -$(CH_2CH_2O)_{n+1}H$, -$(CH_2CH_2O)_n$(CO)-C_1-C_8alkyl, C_2-C_8alkanoyl, C_3-C_{12}alkenyl, C_3-C_6alkenoyl; or R_4 is phenyl or naphthyl each of which is unsubstituted or substituted by halogen, C_1-C_{12}alkyl, C_1-C_{12}alkoxy or -(CO)R_7;

R_5 and **R_6** independently of each other are hydrogen, C_1-C_{20}alkyl, C_2-C_4hydroxyalkyl, C_2-C_{10}alkoxyalkyl, phenyl-C_1-C_3alkyl, C_1-C_4alkanoyl, C_3-C_{12}alkenoyl, benzoyl; or are phenyl or naphthyl each of which is unsubstituted or substituted by C_1-C_{12}alkyl or C_1-C_{12}alkoxy; or R_5 and R_6 together are C_2-C_6alkylene optionally interrupted by -O- or -NR_3- and/or optionally substituted by hydroxyl, C_1-C_4alkoxy, C_2-C_4alkanoyloxy or benzoyloxy; and

R_7 is hydrogen, C_1-C_{20}alkyl; or is C_2-C_8alkyl which is substituted by halogen, phenyl, -OH, -SH, C_3-C_6alkenoxy, -O(CO)-C_1-C_4alkyl, -O(CO)-phenyl or -(CO)O(C_1-C_4alkyl); or R_7 is C_2-C_{12}alkyl which is interrupted by one or more -O-; or R_7 is -$(CH_2CH_2O)_{n+1}H$, -$(CH_2CH_2O)_n$(CO)-C_1-C_8alkyl or C_3-C_{12}alkenyl; or is phenyl optionally substituted by one or more halogen, C_1-C_{12}alkyl, C_1-C_{12}alkoxy, phenoxy, C_1-C_{12}alkylsulfanyl, phenylsulfanyl, -N(C_1-C_{12}alkyl)$_2$, or diphenylamino.

5. **(previously presented):** Photosensitive composition according to claim 1 , wherein component (B) is a compound of formula I or II, wherein

R_1 is C_2-C_4alkanoyl;

Ar_1 is phenyl or naphthyl, each of which is substituted by halogen, C_1-C_8alkyl, NR_5R_6 or OR_3, wherein the substituents OR_3, optionally form 5- or 6-membered rings *via* the radicals R_3 with further substituents on the phenyl or naphthyl ring; or, provided that R_1 is acetyl, Ar_1 is 2-furyl, 2-pyrrolyl, 2-thienyl, 3-indolyl;

M_1 is  ;

x is 2;

$\mathbf{R_3}$ is C_1-C_{20}alkyl; or R_3 is C_2-C_{12}alkyl which is substituted by OH, -O(CO)-C_1-C_4alkyl, -N(C_1-C_4alkyl)$_2$, -N(CH_2CH_2OH)$_2$, -N[CH_2CH_2O-(CO)-C_1-C_4alkyl or morpholinyl; or R_3 is C_2-C_{12}alkyl which is interrupted by one or more -O-; or R_3 is -(CH_2CH_2O)$_{n+1}$H or -(CH_2CH_2O)$_n$(CO)-C_1-C_4alkyl;

n is 1 to 3; and

$\mathbf{R_5}$ and $\mathbf{R_6}$ are C_1-C_4alkyl.

6.(original): Photosensitive composition according to claim 1, wherein the oligomer or polymer (A) is a binder polymer.

7. (original): Photosensitive composition according to claim 6, wherein the binder polymer is a copolymer of (meth)acrylate and (meth)acrylic acid, or a resin obtained by the reaction of a saturated or unsaturated polybasic acid anhydride with a product of the reaction of an epoxy compound and an unsaturated monocarboxylic acid, or is an addition product formed between a carboxyl group-containing resin and an unsaturated compound having an α,β-unsaturated double bond and an epoxy group.

8. **(original):** Photosensitive composition according to claim 1, which additionally to the components (A), (B) and (C) comprises at least one photosensitizer compound (D).

9. **(previously presented):** Photosensitive composition according to claim 8, comprising 100 parts by weight of component (A), 0.015 to 120 parts by weight of component (B), 5 to 500 parts by weight of component (C) and 0.015 to 120 parts by weight of component (D).

10. **(original):** Photosensitive composition according to claim 1, comprising further additives (E), which are selected from the group consisting of epoxy compounds, thermal polymerization inhibitors, inorganic fillers, colourants, epoxy curing agents, amines, chain transfer agents, thermal radical initiators, photoreducable dyes, optical brighteners, thickeners, antifoaming agents and leveling agents, in particular inorganic fillers.

11. **(original):** Photosensitive composition according to claim 1, additionally comprising an epoxy compound which contains at least two epoxy groups in the molecule.

12. **(original):** Solder resist comprising a composition according to claim 1.

13. **(original):** Color filter resist comprising a composition according to claim 1.

14. **(orignal):** Process for the photopolymerization of compounds containing ethylenically unsaturated double bonds, which comprises irradiating a composition according to claim 1 with electromagnetic radiation in the range from 150 to 600 nm.

15. **(original):** Coated substrate which is coated on at least one surface with a composition according to claim 1.

16. **(original):** Process for the production of relief images, wherein a coated substrate according to claim 15 is subjected to imagewise exposure with electromagnetic radiation in the range from 150 to 600 nm, and then the unexposed portions are removed with a solvent.

17. **(original):** A color filter prepared by providing red, green and blue (RGB) color elements and, optionally a black matrix, all comprising a photosensitive composition according to claim 1 and a pigment on a transparent substrate and providing a transparent electrode either on the surface of the substrate or on the surface of the color filter layer.

18. **(original):** Process for forming images, wherein

(1) the components of a composition according to claim 1 are mixed,

(2) the resulting composition is applied to the substrate,

(3) the solvent, if present, is evaporated, at elevated temperature,

(4) the coated substrate is patternwise exposed to irradiation,

(5) the irradiated sample is developed with aqueous alkaline solution, thereby removing the uncured areas and

(6) the sample is thermally cured.